

Zero-Emission Vehicle Workshop Agenda

Date: April 25, 2022

Time: 8:30 am-3:00 pm

ZEV Display and Ride and Drives: 3:00 pm-5:00pm

Location: Ruthe Jackson Center

Time	Session Overview	Panelists
8:30- 9:00 am	Registration and Networking	
Setting the Stage		
9:00-9:10 am	Welcome and Introductions	Lori Clark, North Central Texas Council of Governments (NCTCOG)/ Dallas-Fort Worth Clean Cities Phillip Martin, Environmental Defense Fund (EDF) Andrew DeCandis, Houston-Galveston Area Council (H-GAC)
9:10- 9:40 am	Why Electrify in Texas: <i>Discuss why fleets should electrify in Texas, including the diverse fuel sources, lower cost of doing business, large workforce, the current state of air quality in Texas and how zero-emission vehicles (ZEV) can benefit the environment and minority communities.</i>	Ann Xu, ElectroTempo Rob Orr, Texas 2036 Doug Lewin, Stoic Energy - moderator
9:40- 10:10 am	Interstate Highway-45 (IH-45) Project Overview <i>Introduce IH-45 Project background, scope, and goals.</i>	Lori Clark and Soria Adibi, NCTCOG Ann Xu, ElectroTempo
10:10- 10:20 am	Networking Break	
Zero-Emission Infrastructure		
10:20- 11:00 am	Hydrogen Infrastructure 101 <i>High level overview of available hydrogen infrastructure and how it differs from electric infrastructure.</i>	Brian Weeks, GTI Ed Young, Toyota Jeff Harrington, Air Liquide Robert Meaney, Kaizen Mike Lewis, UT Austin

11:00-11:30 am	Electric Infrastructure 101 <i>Discuss available charging infrastructure for medium- and heavy-duty ZEV, installation process, utility demand, managing charging, and panel of electric utilities and infrastructure providers.</i>	Randy Boys, Oncor Cary Gniffke, Holt Truck/Nikola Will Adams, Charge Point
11:30 am - 12:30 pm	Lunch and ZEV Display	
Path to Zero-Emission Vehicles (ZEV)		
12:30-1:30 pm	The State of ZEV Technology Panel <i>Discuss current and future ZEVs.</i>	Rick Mihelic, NACFE Bobby Cherian, Hyliion Don Hall, MHC Mike Moynahan, HEB Blake Yazel, Lonestar SV
1:30 - 1:50pm	Resources to Assist in Identifying Appropriate Use of ZEVs <i>Discuss the different resources available to assist in acquiring the right type of ZEV for your fleet.</i>	Cliff Gladstein, GNA- Grant Assistance Amy Hodges/Andrew DeCandis, NCTCOG/H-GAC Phillip Martin, EDF
1:50-2:00 pm	Networking Break	
Funding		
2:00-3:00 pm	Funding Options and Opportunities <i>Discuss the different funding opportunities for public and private entities.</i>	Amy Hodges, NCTCOG Andrew DeCandis, H-GAC Kirk Fauver, FHWA Texas Division Salim Youssefzadeh, Watt EV Esteban Santos Lopez, Hunt Energy Solutions Omar Gonzalez, Nikola
Closing Remarks: EDF		
ZEV Vehicle Display and Ride and Drives		
3:00-5:00 pm	ZEV Display and Ride and Drives <i>Hands-on demonstration of ZEVs and ride drives for attendees</i>	<ul style="list-style-type: none"> • Hyliion Hypertruck ERX • Lonestar Specialty Vehicle All-Electric Terminal Tractor • Nikola TRE: Battery-Electric Daycab Semi-Truck and Mobil Charging Trailer (MCT) • Toyota Mirai and bZ4X • XOS Electric Step Van

Workshop Evaluation Form: **Please scan the QR code below to complete the short workshop evaluation form:**



Panelist Information			
Name	Title	Organization	Email
Lori Clark	Program Manager	NCTCOG/DFWCC	lclark@nctcog.org
Soria Adibi	Sr. Transportation Planner	NCTCOG/DFWCC	sadibi@nctcog.org
Amy Hodges	Principal Air Quality Planner	NCTCOG/DFWCC	ahodges@nctcog.org
Phillip Martin	Manager, Zero-Emission Truck Initiative in Texas	Environmental Defense Fund (EDF)	pmartin@edf.org
Andrew DeCandis	Principal Air Quality Planner	H-GAC	Andrew.DeCandis@h-gac.com
Ann Xu	CEO	ElectroTempo	ann.xu@electrotempo.com
Rob Orr	Senior Policy Advisor	Texas 2036	rob.orr@texas2036.org
Doug Lewin	President and Founder	Stoic Energy	doug@stoicenergyconsulting.com
Brian Weeks	Sr. Director, Research Operations	GTI	bweeks@gti.energy
Mike Lewis	Sr Engineering Scientist- Center for Electromechanics	University of Texas, Austin	mclewis@cem.utexas.edu
Jeff Harrington	Director; Systems at Air Liquide Global Markets and Technologies	Air Liquide	jeff.harrington@airliquide.com
Robert Meaney	Co-Founder	Kaizen	robert.meaney@kaizencleanenergy.com
Ed Young	Toyota Infrastructure Development	Toyota	edmond.young@toyota.com
Randy Boys	Strategy & Technology Manager	Oncor	randy.boys@oncor.com
Cary Gniffke	Business Development Manager	Holt Trucking/Nikola	cary.gniffke@holtcat.com

Will Adams	Director, Fleets Sale	ChargePoint	will.adams@chargepoint.com
Rick Mihelic	Director Emerging Technologies	NACFE	rick.mihelic@nacfe.org
Bobby Cherian	Senior VP, Sales & Supply Chain	Hyliion	bobby.cherian@hyliion.com
Don Hall	Lease Account Manager	MHC Truck Leasing	don.hall@mhc.com
Mike Moynahan	Assets Design & Procurement	HEB	moynahan.mike@heb.com
Blake Yazel	General Manager	Lonestar Specialty Vehicles	blake.yazel@lonestarsv.com
Cliff Gladstein	Founding President	GNA- Grant Assistance	cliff@gladstein.org
Kirk Fauver	Planning & Research Engineer	FHWA Texas Division	kirk.fauver@dot.gov
Salim Youssefzadeh	CEO	Watt EV	syoussefzadeh@wattev.com
Esteban Santos Lopez	Business Development Director	Hunt Energy Solutions	esantos@huntenergy.com
Omar Gonzales	Manager, State & Local Government Affairs, US West	Nikola	omar.gonzales@nikolamotor.com

Getting Grant Ready



1. Connect with your local Clean Cities Coalition, Council of Governments (COG), or Metropolitan Planning Organization (MPO)

These agencies can provide resources, technical assistance, and grant funding.

Clean Cities - <https://cleancities.energy.gov/coalitions/>

COG - <https://txregionalcouncil.org/regional-councils/>

MPO - <https://www.texasmpo.org/texas-mpo/>

To connect with the **North Central Texas Council of Governments/Dallas-Fort Worth Clean Cities**, sign-up for our email updates at <https://www.nctcog.org/stay-informed>

To connect with the **Houston - Galveston Area Council of Governments**, go to <https://www.h-gac.com/contact/form>

2. Identify Potential Projects: Know Your Fleet's Key Characteristics

Create a Fleet Inventory List! Include engine model year, daily and annual vehicle mileage, fuel type, gross vehicle weight rating (GVWR) and an identifying number (such as vehicle identification number (VIN) or license plate number) for each vehicle in your fleet.

Understand Your Fleet's Duty Cycle. This includes the net miles traveled daily, where the vehicle parks, how long it is parked, and the type and amount of cargo carried. To identify public refueling stations along your vehicle's route, go to <https://afdc.energy.gov/stations>

3. Research Funding Opportunities

Become familiar with available and future grant opportunities so you don't miss out. Grants available for the Dallas-Fort Worth region can be found at www.nctcog.org/AQfunding. Other grants to be familiar with include:

The Texas Commission on Environmental Quality's Texas Emission Reduction Plan-
<https://www.tceq.texas.gov/airquality/terp>

The Environmental Protection Agency's Diesel Emissions Reduction Act Funding-
<https://www.epa.gov/dera/national>

The Bipartisan Infrastructure Law's Programs-
<https://www.whitehouse.gov/build>

While researching grants, make sure to **identify the following:**

- **Applicant, project, and fuel type** eligibility and,
- **If the grant requires to scrap an old vehicle.** If so, check for old vehicle scrappage requirements: such as minimum annual mileage, engine model year, and more.

4. Apply for Grant Funding!

Who we are: Dallas-Fort Worth Clean Cities (DFWCC) is hosted by the North Central Texas Council of Governments (NCTCOG) and is the local coalition of the Department of Energy's Clean Cities Program. DFWCC's mission is to improve North Texas air quality through initiatives and partnerships that reduce transportation emissions, improve efficiency, and strengthen the local economy.



Texas Fleet Electrification Solutions

Texas-specific information to help fleets electrify Class 3-8 vehicles

Electric medium- and heavy-duty vehicles are being rapidly deployed across the country, amid declining cost of expanded range and increased vehicle model availability. Not only will these vehicles save fleets money, organizations are also identifying them as a key strategy for achieving sustainability, environmental justice, and zero-emission supply chain goals. A [2021 study](#) found nearly 500 electric medium- and heavy-duty vehicles have already been deployed across the country, with pledges to deploy over 300 times more of these vehicles over the next few years.

Fleets in Texas are leading the way. For example, Woodlands-based A&R Logistics deployed two Peterbilt Model 579EVs and J.B. Hunt Transport Services deployed a handful of Mitsubishi Fuso eCanters across Houston. CenterPoint Energy has committed to electrifying 10 percent of its heavy-duty vehicles by 2030. Truck manufacturers with existing or planned electric models have plants located across Texas: Toyota in San Antonio and Dallas, Peterbilt in Denton, Navistar in San Antonio, and Toshiba Heavy Industries in Houston.

This resource expands on Environmental Defense Funds' [Fleet Electrification Solutions Center](#) by providing Texas-based fleet professionals with Texas-specific information and tools needed to successfully transition existing Class 3-8 vehicles to their electric counterparts. The following sections are included:

- Section 1: Connecting with electrification resources;
- Section 2: Obtaining funds for electric vehicles and charging infrastructure;
- Section 3: Identifying public and private vehicle charging solutions;
- Section 4: Contributing to healthier communities; and
- Section 5: Establishing electric vehicle maintenance protocols.

Section 1: Connecting with electrification resources

As Texas fleets deploy electric medium- and heavy-duty vehicles across the state, they will build expertise about the most effective ways of preparing for more widespread electric vehicle deployment, operating deployed electric vehicles, and increasing the composition of these vehicles in their fleets. Sharing electrification information among fleets, local groups, and government agencies speeds up deployment. In addition to reviewing Environmental Defense Funds' [Fleet Electrification Solutions Center](#), fleet professionals should seek electrification assistance from the following entities:

- [The Clean Cities Coalition](#) works with fleets to implement electric vehicles and fuel-saving strategies. Coalition groups in the following areas can be contacted using the following information:
 - [Alamo Area \(San Antonio\)](#), Lyle Hufstetler, 210-362-5225, lhufstetler@aacog.com;
 - [Dallas-Fort Worth](#), Lori Clark, 817-695-9232, lclark@nctcog.org;
 - [Houston-Galveston](#), Andrew DeCandis, 832-681-2589, Andrew.DeCandis@h-gac.com; and
 - [Lone Star \(Central Texas\)](#), Elizabeth Munger, 512-694-1004, elizabeth@lonestarcfa.org.
- Fleets that are located outside of the Clean Cities Coalition areas, should contact their respective [council of government](#), which are responsible for regional transportation planning and can help connect fleets that are interested in electrification with other fleets that are exploring, amid, or done with electrification.
- [EVolve Houston](#) is a public-private partnership focused on accelerating electrified transportation and improving air quality across Houston and is working with other regional fleets to support the development of many more regional fleet electrification targets.

Section 2: Obtaining funds for electric vehicles and charging infrastructure

Electric medium- and heavy-duty vehicles require more up-front capital than diesel models, but cost differences for electric most models, even without financial assistance (e.g. state grants or utility incentives), can be "paid back" via annual operating savings over the life of the vehicle. Grants, incentives, and other forms of financial assistance will make electrification an

even more attractive financial decision. Fleets should expect approximately 18 months before vehicles are delivered, based on current supply chain constraints.

The following state, utility, and federal funding sources may be accessible to fleets across Texas. State Incentives are available to fleets operating in the following areas:

- **Austin Area:** Bastrop, Caldwell, Hays, Travis, and Williamson Counties
- **Beaumont-Port Arthur Area:** Hardin, Jefferson, and Orange Counties
- **Corpus Christi Area:** Nueces and San Patricio Counties
- **Dallas-Fort Worth Area:** Collin, Dallas, Denton, Ellis, Henderson, Hood, Hunt, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties El Paso Area: El Paso County
- **Houston-Galveston-Brazoria Area:** Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties
- **San Antonio Area:** Bexar, Comal, Guadalupe, and Wilson Counties
- **Tyler-Longview Area:** Gregg, Harrison, Rusk, Smith, and Upshur Counties
 - Vehicle Incentives:
 - [North Texas Clean Diesel Project](#): Covers between 45% and 60% of on-road electric vehicle replacements, and 25% and 50% of non-road electric vehicle replacements for fleets operating in the Dallas-Fort Worth 10-county ozone nonattainment area and identified within a 10-county area housing several goods movement and transportation hubs.
 - [Houston-Galveston Area Council Clean Vehicles Program](#): Heavy-duty trucks projects have received an average of about \$30,000 per truck, and projects must spend 75% of usage time in the Houston-Galveston-Brazoria region.
 - [Houston-Galveston Area Council Heavy Duty Diesel Replacement Program](#): Covers up to 75% of the cost of Class 6-8 electric vehicles operating in the Houston-Galveston-Brazoria region.
 - [Seaport and Rail Yard Emissions Reduction Grants](#): Covers up to 80% of the eligible costs associated with the purchase or lease of on- and non-road electric vehicles operating at seaports, facilities, and Class I rail yards in air quality nonattainment areas and other affected counties.
 - [Emissions Reduction Incentive Grants Program](#): Provides grants in varying quantities for on-road and non-road vehicles operating in air quality nonattainment areas and other affected counties.
 - Infrastructure Incentives:
 - [Alternative Fueling Facilities Program](#): Covers up to \$600,000 or 50% of DC fast or level 2 charging infrastructure located in air quality nonattainment areas and other affected counties.
 - [New Technology Implementation Grant Program](#): Previous recipients have received between \$2 million and \$2.6 million for electricity storage projects that store electricity from wind, solar, or other renewable energy generation that provides efficient means of making the stored

energy available during periods of peak energy use. Projects must be located in air quality nonattainment areas and other affected counties.

Utility Incentives

- Vehicle Incentives:
 - [Entergy Fleet Electrification Incentive](#): Covers up to \$25,000 for electric vehicles in Entergy service territory.
- Infrastructure Incentives:
 - [Austin Energy Workplace Charging Rebate](#): Covers up to \$4,000 or 50% of the cost to install approved Level 2 fast charging infrastructure, and up to \$10,000 of the costs to install approved DC fast charging infrastructure.
 - [Entergy Fleet Charging Incentive](#): Covers up to \$25,000 for level 2 and DC fast charging infrastructure in Entergy service territory.

Federal Incentives

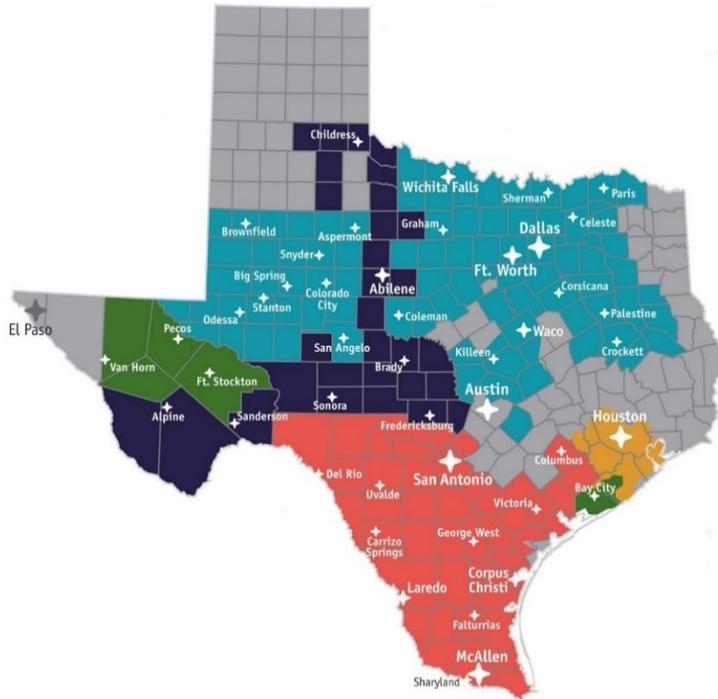
- Vehicle Incentives:
 - [Diesel Emissions Reduction Act](#): Provided Texas entities, including American Lung Association and Port of Houston, with \$5,500,000 in funding in 2021, and fleets operating in air quality nonattainment areas can apply for these funds.

Section 3: Identifying public and private vehicle charging solutions

Successfully deploying medium- and heavy-duty vehicles requires a keen understanding of their charging needs based on their range, duty cycle, and charging time.

While Texas [currently](#) has 3,127 miles of pending and ready EV corridor – a number that will sharply increase as the state receives over \$400 hundred million for charging infrastructure over the next few years via the Bipartisan Infrastructure Law – most existing infrastructure is not optimized for charging medium- and heavy-duty vehicles.

Installing charging stations at the location where a fleet's vehicles are stored overnight will help fleets achieve their duty cycles. Doing so will require fleet professionals to talk with their local utility about the interconnection process, timing, and permitting requirements. The following map provides contact information for a portion of the utilities across the state.



Source: [Power Wizard](#)

Electric Utility Provider Contacts

Oncor: 888-313-6862,

contactcenter@oncor.com

AEP North: 888-710-4237,

pev@aep.com

Centerpoint: 713-207-2222

david.owen@centerpointenergy.com

TNMP: 888-866-7456

AEP Central: 888-710-4237,

pev@aep.com

Municipal Utilities Contacts

San Antonio: 210-353-2728

Austin Energy: 512-494-9400,

pluginaustin@austinenergy.com

El Paso Electric: 915-543-5970,

customercare@epelectric.com

In addition to connecting with utilities, fleet professionals can connect with private companies that specialize in charging solutions. The following list of companies can help fleets deepen their understanding of these solutions:

- Greenlots: Provides fleet operators with the right technology and services to make the transition to electrification easier and more affordable by enabling companies to deploy and maintain their charging infrastructure. Contact: 888-751-8560, info@greenlots.com
- ChargePoint: Provides fleet solution portfolio that includes everything fleets need to electrify and optimize fueling as they grow. Contact: 877-370-3802, sales@chargepoint.com
- ElectroTemp: Works with fleets to help them build out enhanced capital and operational analytics modules to optimize their electrification strategy. Contact: helpdesk@electrotempo.com

Section 4: Contributing to healthier communities

[According](#) to the American Lung Association, electrifying transportation in Texas will avoid or prevent \$6.7 billion in health costs, 580 premature deaths, 11,500 asthma attacks, and 47,000 lost workdays. Medium- and heavy-duty vehicles [make up](#) roughly 4% of all vehicles in Texas, but they produce 90% of transportation-related nitrogen oxide (NO_x) emissions – emissions that contribute to poor air quality conditions that [cause](#) and [exacerbate](#) asthma, COPD, and stroke and disproportionately impact low-income communities of color. Widespread electrification will contribute to healthier communities.

Some Texas neighborhoods are more burdened by pollution than others. Environmental Defense Fund collected 30 million time- and location-stamped pollution measurements across Houston during 2017 and 2018 and [found](#) that some neighborhoods have over 9 times more on-road air pollution than their metro area counterparts, primarily due to the presence of large warehouses and manufacturing facilities, adjacent to these neighborhoods.

The impacts of transportation-emissions are apparent in Houston's Fifth Ward, which is a major industrial area and is composed of 90% people of color. EDF research [shows](#) that NO₂ levels here were 48% higher than the rest of the city, which has led to 11% asthma and 10% COPD rates, both of which are considerably higher than city averages.

Companies are already being [questioned](#) about the impacts that large warehouses are having on local communities, and the pressure will only increase as e-commerce and distribution facilities expand [right by population centers](#). By transitioning to electric medium- and heavy-duty vehicles, fleets can simultaneously improve the health and economic outcomes of the communities in which they operate and reduce the potential for pushback as more vehicles are put on the road to satisfy increasing demand for goods and services.

Section 5: Establishing electric vehicle maintenance protocols

While around 20 electric vehicle maintenance locations exist throughout the state, most do not have the facilities required for servicing electric medium- and heavy-duty vehicles. To ensure maintenance capacity, fleets that want to electrify should pay existing maintenance staff to be trained in EV-specific maintenance, such as high voltage systems safety and servicing and electric vehicle components operation and diagnosis, or hire staff who have learned these skills. Various opportunities exist to train or hire staff with these skills exist:

- Universal Technical Institute (UTI) now offers an [electric vehicle certification curriculum](#) as part of its 15-week Ford FACT (Ford Accelerated Credential Training) program at its Houston, TX location;
- Waco's Texas State Technical College has been chosen as the first school in Texas for Tesla START, the Silicon Valley company's 12-week [electric vehicle service program](#);
- TÜV SÜD offers [online courses](#) on safe handling of high voltage systems; and
- Staff who are currently employed at electric vehicle maintenance locations may be interested in working for fleets that are transitioning to electric vehicles.

Grants for Fleet Vehicles & Infrastructure

Last Updated: April 15, 2022



North Central Texas
Council of Governments

Funding Agency	Program	Typical Schedule	Eligible Applicants	Eligible Activities	Old Vehicle Criteria*	Eligible Funding Levels	Funding Type
Environmental Protection Agency (EPA)	Diesel Emissions Reductions Act (DERA) National Grants	Winter	Public entities Private sector can engage through public-private partnerships	- Replace or repower heavy-duty vehicles or equipment	Fuel: Diesel Model Year: Older - 2009 (newer than 2010 if replacing with electric) Weight: 16,001 GVWR and up	Up to 45% cost if new vehicle is electric; up to 60% for repowers Up to 35% cost if new is powered by engine certified to CARB optional low-NOx standards (both NG and LPG engines currently available); up to 50% for repowers Up to 25% cost for all others; up to 40% for repowers	Vehicle
North Central Texas Council of Governments (NCTCOG)	North Texas Clean Diesel Project 2021	Closed	Public or private entities	- Replace or repower diesel vehicles and equipment - Transport refrigeration unit (TRU) trailer replacement - Drayage truck replacement - Locomotive engine repower and idle control strategies	Fuel: Diesel Model Year: Older - 2009 (newer than 2010 if replacing with electric) Weight: 16,001 GVWR and up	Up to 45% cost if new is electric, up to 60% for repowers Up to 35% cost if new is powered by engine certified to CARB optional Low-NOx Standards, up to 50% for repowers Up to 25% for all others, up to 40% for repowers Up to 45% of eligible TRU replacement costs Up to 50% of eligible drayage truck replacement costs	Vehicle
Texas Commission on Environmental Quality (TCEQ)	TERP Light-Duty Motor Vehicle Purchase or Lease Incentive Program	Open	Public or private entities/individuals	- Purchase or lease new light-duty motor vehicle powered by CNG, LPG, or hydrogen fuel cell, or plug-in or plug-in hybrid	N/A	Up to \$5,000 for eligible CNG or LPG Up to \$2,500 for eligible hydrogen fuel cell or other electric drive (plug-in or plug-in hybrid)	Vehicle
TCEQ	TERP Texas Natural Gas Vehicle Grant Program	Winter	Public and private entities	- Replace or repower a heavy-duty or medium-duty motor vehicle with a CNG, LNG, or LPG, engine or vehicle	Fuel: Diesel or gasoline Weight: Over 8,500 GVWR	Up to 90% of the new replacement vehicle or engine minus \$1,000 scrap for replacements and \$250 scrap for repowers	Vehicle
TCEQ	TERP Texas Clean Fleet Program	Spring	Any entity who owns a fleet of at least 75 vehicles and submit a grant application for at least 10 qualifying vehicles	- Replace diesel powered vehicles with alternative fuel or hybrid vehicles	Fuel: Diesel	Up to 80% of the new replacement vehicle or engine minus \$1,000 scrap for heavy-duty vehicles and \$500 scrap for light-duty vehicles	Vehicle
TCEQ	TERP Rebate Grants Program	Summer	Public or private entities/individuals	- Replace or repower heavy-duty vehicles or equipment	Fuel: Diesel Weight: Over 8,500 GVWR	Up to 80% of new replacement vehicle or engine minus \$1,000 scrap for replacements and \$250 scrap for repowers	Vehicle
TCEQ	TERP Emissions Reduction Incentive Grants	Fall	Public or private entities/individuals	- Replace, upgrade new purchase or lease, or retrofit or add-on of emission-reduction technology, of heavy-duty vehicles, equipment, locomotives, or marine vessels - Install on-vehicle electrification and idle reduction infrastructure, refueling infrastructure (not diesel or gasoline), on-site electrification and idle reduction infrastructure, or rail relocation and improvement	Weight: Over 8,500 GVWR	Up to 80% of the new replacement vehicle or engine minus \$1,000 scrap for replacements and \$250 scrap for repowers, capped at \$17,500 per ton NOx reduced For new purchase or lease, funds will pay for the cost difference between the manufacturer's suggested retail price of a baseline vehicle certified to the current federal NOx emission standards and the actual cost of the cleaner vehicle	Vehicle
TCEQ	TERP Governmental Alternative Fuel Fleet Grant Program	Summer	Public entities who operate a fleet of more than 15 motor vehicles	- New purchase or lease of light-duty or heavy-duty vehicle powered by CNG, LNG, LPG, hydrogen, or electricity, including plug-in hybrid vehicles	N/A	Class 1 Vehicles - \$15,000 Class 2-3 Vehicles - \$20,000 Class 4-6 Vehicles - \$35,000 Class 7-8 Vehicles - \$70,000 Up to 10% of funds may be used to purchase, lease, or install refueling infrastructure, equipment, or services	Vehicle
Federal Transit Administration (FTA)	Low or No Emission Vehicle Program	Open, Application due May 31	State and local governmental authorities and, Indian Tribes	- New purchase or lease of low- or no- emission buses, and/or acquiring low- or no- emission buses with a leased power source. - Constructing, rehabilitating, or improving existing public transportation facilities to accommodate low- or no- emission buses	N/A	Up to 90% of the net project cost which includes the cost of leasing or acquiring low- or no- emission bus-related equipment and facilities.	Transit Vehicles and Bus Facilities
Emergency Vehicle Funding							
Texas Department of Agriculture	Fire, Ambulance and Services Truck (FAST) Fund	Open, Application Deadline: July 29, 2022	Non-Entitlement Communities (generally cities located predominately in rural areas with populations of less than 50,000 persons, and counties predominately rural in nature and generally have fewer than 200,000 persons in the non-entitlement cities and unincorporated areas)	- Purchase fire trucks, ambulances and similar emergency medical vehicles, jaws of life and similar rescue equipment; and/or rescue boats and similar specialized emergency vehicles	N/A	Up to \$500,000 per jurisdiction	Vehicle

School Bus Funding							
EPA	DERA School Bus Rebate Program	Fall	Regional, state, or tribal agency that has jurisdiction over transportation and air quality, including school districts and municipalities, and private entities that contract with them	- Replace buses	Fuel: Diesel Model Year: 2006 and older Weight: Over 10,000 GVWR	\$20,000 for diesel and gasoline \$25,000 for propane \$30,000 for CNG/LNG \$65,000 for battery or hydrogen electric Maximum rebate per application is \$300,000	Vehicle
EPA	Clean School Bus Rebate Program	Late April 2022	Public school districts, local education areas, Indian tribes, and state agencies that own/operate bus fleets for schools	- Replace buses	EPA will provide details on April 27	\$5 billion over a span of 5 years	Vehicle
TCEQ	TERP Clean School Bus Program	Open	Any school district, charter school, or transportation system provided by a countywide school district	- Replace or retrofit buses	Fuel: Diesel Model Year: 2006 and older	Up to 80% of the cost of the new replacement vehicle minus \$1,000 scrap for replacements	Vehicle
USDA	Communities Facilities Direct Loan & Grant Program	Open	Rural areas including, cities, villages, townships and towns including Tribal Lands with no more than 20,000 residents	- Purchase buses	N/A	Maximum of 75% of the proposed project	Vehicle
Seaport and Railyard Vehicle Funding							
TCEQ	TERP Seaport and Rail Yard Areas Emissions Reduction Program	Open	Any entity that can operate the vehicle or equipment operating at least 200 days per year of eligible seaport terminals and Class I intermodal rail yards	- Replace or repower drayage trucks and cargo handling equipment	Weight: Over 26,000 GVWR	Up to 80% of the new replacement vehicle or engine minus \$1,000 scrap for replacements and \$250 scrap for repowers, capped at \$25,000 per ton NOx reduced	Vehicle and/or Infrastructure
Infrastructure Funding							
NCTCOG	North Texas Freight Terminal Electrification 2020	Open	Private entities	- Funds projects to construct and install EPA SmartWay verified electrified parking spaces (EPS) at truck terminals and distribution centers	N/A	Electrified Parking Space: 30% of project unit cost up to \$3,600 Power Monitoring Equipment: 30% of a project unit cost up to \$1,800 Electric Power Kits: 30% of a project unit cost up to \$900	Infrastructure
USDA	Rural Business Development Grants	Closed- Anticipated Opening Spring 2023	State and local governmental authorities, federally recognized tribes, nonprofit corporations, institutions of higher education, and rural cooperatives (if organized as a nonprofit corporation).	- EV charging stations can be funded through this grant if local small businesses can provide Letters of Support that state the charging stations will support job growth/retention	N/A	There is no maximum grant amount; however, smaller requests are given higher priority. There is no cost sharing requirement. Opportunity grants are limited to up to 10 percent of the total Rural Business Development Grant annual funding.	Infrastructure
State Energy Conservation Office	LoanSTAR Program	Closed	Governments, school districts, institutions of higher education, and tax-supported public hospital districts	- Funds energy-related, cost-reduction retrofit projects such as the installation of rooftop solar water and space heating systems, geothermal heat pumps, and small wind and solar-thermal systems	N/A	Up to \$8 million in loan size For loans funded with repaid ARRA funds, minimum loan size is \$3 million	Infrastructure
TCEQ	TERP Alternative Fueling Facilities Program	Open	Public or private entities/individuals	- Funds new construction or the expansion of existing alternative or natural gas fueling facilities	N/A	Up to \$400,000 for a compressed natural gas CNG or LNG project Up to \$600,000 for a combined CNG and LNG project Up to 50% or maximum of \$600,000, whichever is less, for fuels other than natural gas	Infrastructure
FHWA	Competitive Grants for Recharging and Refueling Infrastructure	To Be Determined	Public sector (e.g. state Departments of Transportation, MPOs, and local governments)	- Funds development of alternative fuel infrastructure along FHWA-designated alternative fuel corridors and within communities	N/A	Nationally, \$2.5 Billion over 5 years (\$300 million expected FY22, increases by \$100M per year through FY27) 50% devoted to corridor projects 50% reserved for other public infrastructure within communities	Infrastructure
FHWA	National EV Infrastructure Formula Program	To Be Determined	Public sector (e.g. state Departments of Transportation, MPOs, and local governments)	- Funds development of EV Charging infrastructure along FHWA-designated alternative fuel corridors	N/A	\$408 Million allocated to Texas. Federal funding can pay up to 80% of individual projects.	Infrastructure

Broadly Scoped Transportation Programs with ZEV Eligibility; Note Buy America Requirements Apply to All

U.S. DOT	U.S. DOT National Infrastructure Project Assistance ("Mega-Projects")	Spring	Public sector (e.g. state Departments of Transportation, MPOs, and local governments); Private sector can engage through public-private partnerships	Projects likely to generate national or regional economic, mobility, and safety benefits, but would not be achievable without substantial financial assistance. Projects are selected for funding based on a competitive evaluation that includes a variety of scoring criteria. ZEV projects may be particularly responsive to the "climate change, resilience, and the environment" selection criterion, which incorporates consideration of electrification or ZEV infrastructure.	N/A	Up to 80%	Infrastructure and Public Sector Vehicles
U.S. DOT	U.S. DOT Local and Regional Project Assistance Program, also known as Rebuilding American Infrastructure with Sustainability and Equity (RAISE)	Spring	Public sector (e.g. state Departments of Transportation, MPOs, and local governments); Private sector can engage through public-private partnerships	Projects that will have a significant local or regional impact and improve transportation infrastructure. Projects are selected for funding based on a competitive evaluation that includes a variety of scoring criteria. ZEV projects may be particularly responsive to the environmental sustainability criterion.	N/A	Up to 80%	Infrastructure and Public Sector Vehicles
U.S. DOT	U.S. DOT Nationally Significant Freight and Highway Projects, also known as Infrastructure for Rebuilding America (INFRA)	Spring	Public sector (e.g. state Departments of Transportation, MPOs, and local governments)	Multimodal freight and highway projects of regional and national significance. Projects are selected for funding based on a competitive evaluation that includes a variety of scoring criteria. Scoring criteria that ZEV projects may be responsive to include support of national/regional economic vitality and impacts on climate change & environmental justice.	N/A	Up to 80%	Infrastructure and Public Sector Vehicles
U.S. DOT	U.S. DOT Port Infrastructure Development Program	Spring	Public sector (e.g. state Departments of Transportation, MPOs, and local governments); Private sector can engage through public-private partnerships	Projects that improve the resiliency of ports to address sea-level rise, flooding, extreme weather events, earthquakes, and tsunami inundations, as well as for projects that reduce or eliminate port-related pollutant or greenhouse gas emissions. Projects are selected for funding based on a competitive evaluation that includes a variety of scoring criteria. ZEV projects may be particularly responsive to the "climate change and environmental justice" selection criterion, which incorporates consideration of electrification or ZEV infrastructure.	N/A	Up to 80%	Infrastructure and Public Sector Vehicles
NCTCOG and H-GAC	Congestion Mitigation and Air Quality Improvement Program	Continuous	Public sector; Private sector can engage through public-private partnerships	Projects and programs that yield air quality benefits in areas that face nonattainment or maintenance requirements for transportation-related criteria pollutants (ozone, carbon monoxide, or particulate matter)	N/A	Up to 80%	Infrastructure and Public Sector Vehicles

For more information and the latest updates, visit www.nctcog.org/aqfunding

California Air Resources Board (CARB); Compressed Natural Gas (CNG); Gross Vehicle Weight Rating (GVWR); Liquefied Natural Gas (LNG); Liquefied Petroleum Gas (LPG); Original Equipment from the Manufacturer (OEM); Texas Emissions Reduction Plan (TERP)

*The criteria presented is not a comprehensive listing, and each program may have additional criteria such as operating hours, a specific counties of operation, vehicle registration limitations, etc.

